

Amendments to the Specification

The paragraph starting at page 3, line 22 and ending at page 4, line 6 has been amended as follows.

Along with recent reductions in the size and cost of inkjet printing apparatuses, printing element substrates (semiconductor chips) on which orifice groups and orifice lines are formed are being downsized. Further, as printing apparatuses achieve high image quality, the drop size is decreased to ~~fly~~ eject smaller ink droplets, and orifices are arranged at higher density. With compact printing element substrates and high orifice arrangement density, problems which have been negligible in conventional inkjet printing apparatuses become ~~serious~~ significant. These problems will be described in detail.

The paragraph starting at page 13, line 25 and ending at page 14, line 7 has been amended as follows.

Other objects and advantages besides those discussed above shall be apparent to those skilled in the art from the description of a preferred embodiment of the invention, which follows. In the description, reference is made to the accompanying drawings, which form ~~apart~~ a part thereof, and which illustrate an example of the invention. Such example, however, is not exhaustive of the various embodiments of the

invention, and therefore reference is made to the claims, which follow the description for determining the scope of the invention.

The paragraph starting at page 18, line 18 and ending at page 19, line 8 has been amended as follows.

Reference numeral 12 denotes a preliminary discharge reception portion which is arranged on a side opposite to the home position via a printing operation region for the printing medium P. ~~Preliminary~~ A preliminary discharge operation is performed. In this operation, ink droplets which do not contribute to printing are discharged from the orifice of the printhead to the preliminary discharge reception portion 12. The preliminary discharge reception portion 12 is arranged on an upper side in Fig. 1, and forms part of the recovery system unit. The recovery system unit may be equipped with a blade formed from an elastic material such as rubber, and ~~wipe~~ wipes droplets attaching to an end face (to be also referred to as an orifice surface or face surface hereinafter) having the orifice of the printhead. To solve the push of ~~an~~ unwanted matter to the orifice by wiping, preliminary discharge is executed after wiping to stabilize the discharge state.

The paragraph starting at page 21, line 20 and ending at page 22, line 5 has been amended as follows.

Reference numeral 31 denotes a TAB portion where wiring lines are formed; and 32, a chip portion where orifices are formed. Orifice groups are formed at equal intervals corresponding to a width a in an order of magenta (M), yellow (Y), and cyan (C) from the left. Fig. 3B is an enlarged view showing a portion X surrounded by a dotted line in Fig. 3A. Reference numerals 33 and 34 denote magenta (M) orifice lines. These two orifice lines form a magenta (M) orifice group. Similarly, reference numerals 35 and 36 denote yellow (Y) orifice lines; and 37 and 38, cyan (C) orifice lines. The two ~~orifices~~ orifice lines form an orifice group of each color.

The paragraph starting at page 27, line 25 and ending at page 28, line 17 has been amended as follows.

In the middle row of Fig. 5, the wiping execution thresholds of the orifice groups are uniformly set as half as 15,840,000 dots. In this case, no image error such as printing omission or printing distortion occurs in printing of red (magenta and yellow) and green (yellow and cyan) in which an image is formed using adjacent orifice groups. This is because, even if the wiping execution thresholds are uniformly set to the same value of 15,840,000 dots, the wiping execution timing is twice as fast as that at 31,680,000 dots in the upper row of Fig. 5, and wiping is executed before an image error is caused by deposition of an ink droplet or mist on the face surface under the influence of air flows

generated upon discharging ink from adjacent orifice groups. Since, however, the wiping execution timing is twice as fast, the wiping count is 120 which is the largest in a case in which the same image is printed on the same number of printing media. Thus, the printhead wears soon by wiping, shortening the service life of the printhead.

The paragraph starting at page 30, line 15 and ending at page 31, line 3 has been amended as follows.

In the first embodiment, when the cleaning condition of a predetermined orifice group out of a plurality of orifice groups has been established, not only the predetermined orifice group but also all the orifice groups, i.e., the orifice surface of the printhead, is cleaned. In a printing apparatus capable of cleaning each of the orifice groups, only an orifice group which satisfies the cleaning condition may be cleaned. In the arrangement in which not only a predetermined orifice group but also all the orifice groups are simultaneously cleaned, when the cleaning condition of the predetermined orifice group has been established and cleaning is done, not only the cumulative discharge count of the predetermined orifice group but also the cumulative discharge counts of the cleaned orifice groups are cleared to a default value.

The paragraph starting at page 40, line 23 and ending at page 41, line 20 has been amended as follows.

In the middle row of Fig. 9, the weighting/integrating processing values for the discharged dot counts of the orifice groups of the respective colors are uniformly set to the discharged dot count $\times 2$. In this case, no image error such as printing omission or printing distortion occurs in printing of red (magenta and yellow) and green (yellow and cyan) in which an image is formed using adjacent orifice groups. This is because the weighting/integrating processing value for the discharged dot count of the orifice group of each color is twice as large as that in the upper row, the counter value of the discharged dot count becomes large twice as fast as that in the upper row of Fig. 9, the discharged dot count of each orifice group reaches the same wiping execution threshold twice as fast, and wiping is executed before an image error is caused by deposition of an ink droplet or mist on the face surface under the influence of air flows generated upon discharging ink from adjacent orifice groups. Since, however, the wiping execution timing is twice as fast, the wiping count is 120 which is the largest in a case in which the same image is printed on the same number of printing media. Thus, the printhead wears soon by wiping, shortening the service life of the printhead.